

DETAILED ACTION

Claims 1-14 are pending and claims 15-17 have been cancelled in the current application. Pending claims 1-14 have are examined.

Claim Objections

Claims 1-14 are objected to because of the following informalities:

Claims as recited includes the term "characterised in that" in the claim 1. Applicant is suggested to change the phraseology to a more accepted US term, such as "wherein" to clarify the meaning of the claim. Appropriate correction is required.

Claim 14 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 14 recites " A method according to claim 1 wherein the mix is quiescently frozen." However, the limitation of "mix is quiescently frozen" is already part of claim 1, from which claim 14 depends. Correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is indefinite for the recitation of "characterised in that the mix does not comprise a gel" in line 3 of the claim. As recited it is unclear what is encompassed by the phrase "characterised in that the mix does not comprise a gel", for example, does the claimed phrase mean that no preformed gelled component is part of the mix of frozen

confection, OR does it mean that no gelable component is part of the mix OR does it encompass that the process or method steps are such that the mix does not form a gel. Thus, as recited the metes and bounds of the claim are unclear. Correction and/ or clarification is required.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

In the present instance, claim 2 recites the broad recitation "overrun of at least 25%", and the claim also recites "preferably 40%" which is the narrower statement of the range/limitation.

Similarly, claim 3 recites the broad recitation "Less than 1% stabilizer", and the claim also recites "preferably less than 0.3%" which is the narrower statement of the range/limitation.

Correction and/ or clarification is required.

Claim 3 is also indefinite for recitation of a proportion of stabilizer without any units, and as recited it is unclear whether the amount of stabilizer is by weight of the mixture or by volume. Correction and/ or clarification is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

A) Claims 1-6, 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vaghela et al (US 6187,365 B1), hereinafter Vaghela in view of Falconer et al (US 3623889), hereinafter Falconer.

Vaghela teaches of a process of making frozen confections including water ices having an overrun of above about 20% to about 150% and an ice cream with an overrun from

50% to about 200% (Column 5, lines 1-11), which includes applicants recited overrun ranges for claims 1, 2, and 4.

Vaghela discloses the limitation of "quiescently freezing a mix" (Column 5, lines 49-51), as recited in claims 1, 9 and 14.

Regarding claims 1, 5 and 6, Vaghela teaches a process of making molded aerated ice creams and water ices, wherein the reference discloses that "The mix suitable for a frozen bar may be any conventional mix, such as an ice cream mix, a water ice mix, a fruit juice mix, a frozen yogurt mix or a sherbert mix" (Column 3, lines 1-4). Vaghela also discloses that a freezable mix includes conventional ingredients such as emulsifiers, mineral salts, colorants, flavorings, inclusions and water (Column 3, lines 5-13).

Vaghela is silent about specifying "a carbon dioxide generating composition" as recited in claim 1 and "carbon dioxide generating composition comprises an acid and a carbonate" as recited in claim 5. However, frozen confections or mixes containing carbon dioxide generating compositions were well known in the art at the time of the invention. For example, Falconer discloses frozen confections including water ices, with, effervescent material, comprising a water soluble acid, such as citric or tartaric acid and water soluble carbonate from which carbon dioxide is liberated by acid in aqueous solution (e.g., Falconer Column 3, lines 55-60). Thus, frozen confections comprising carbon dioxide generating compositions, as claimed by the applicants' were known at the time of the invention. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Vaghela in view of Falconer and make a frozen confection comprising carbon dioxide generating compositions. One of ordinary skill would have been motivated to modify Vaghela at least for the purpose of producing an effervescent frozen confection for its known organoleptic characteristics.

Regarding the limitation of "characterised in that the mix does not comprise a gel", applicants are referred to rejection under 112 (second paragraph)"

Regarding claim 3, Vaghela discloses of stabilizer blend of 0.5% of the composition (Column 5, lines 30-36), which falls in applicants recited range of less than 1% stabilizer, preferably less than 0.3%.

Regarding the freezing limitations as recited in claims 10 and 13, where the mix is mix is partially slush frozen before it is quiescently frozen (claim 10) and mix is not partially slush frozen (claim 13), Vaghela teaches of aerating at a temperature range of about 0° C to about 12° C (column 4, lines 14-15), which includes agitation of fluid at temperatures at which water starts to freeze, which would likely cause some of the components to freeze, or form a slush. However, the temperature range for aeration also suggests higher temperatures where no freezing would occur. Vaghela also discloses the state of the art including freezers that have pre-whippers that enable the mix to be pre-aerated before being partially frozen in the freezer (Column 1, lines 20-50), i.e., aerated slush. Further, Falconer discloses of aerating and freezing a confection product at temperature of -2° C (column 6, lines 58-65), which will freeze the confection partly or completely depending on the desired finished consistency. Thus, aeration and freezing to form, soft frozen or slush type products was known at the time of the invention. Therefore, it would have been a matter of routine determination for one of ordinary skill in the art at the time of the invention to adjust the temperature during aeration to choose either slush freeze before quiescently freezing or to aerate above freezing temperature and then quiescently freeze the mixture. One of ordinary skill in the art at the time of the invention would have been motivated to choose one of the method steps, at least based on the type of product being made (water ice, soft serve ice cream etc), the softness or hardness desired in the finished product and also based on the equipment available.

Regarding the limitations of "carbon dioxide generation is caused to occur before the mix is partially slush frozen" (claim 11) or "carbon dioxide generation is caused to occur after the mix is partially slush frozen and before it is quiescently frozen" (Claim 12), Vaghela in view of Falconer, disclose the frozen confection with carbon dioxide

generation composition. Falconer discloses addition of water soluble acid and water soluble salt, wherein at least one, preferably both of the components of the effervescent material is placed within a water impermeable substance (Column 3, line 55 to Column 4, line 35). Falconer suggests that enrobing is done in such a way that even release of contained material when the enrobing substance melts (Column 4, lines 1-30). Falconer also discloses that 5 to 40 or 50% of the effervescent material or its component is present in the water impermeable substance (Column 4, line 75 to Column 5, line 2), i.e., not a 100% of the effervescent materials are enrobed. Thus, aeration of ice-cream or water ice confections is done at temperature ranges either above or below freezing temperatures was known (as discussed above regarding claim 10). Enrobing at least one component of effervescent composition, i.e., either acid or the carbonate was known to make them insoluble to water was also known at the time of the invention, as disclosed by Falconer. Further it was also known that either all or part of the effervescent material is enrobed (Falconer, Column 4, line 75 to Column 5, line 2). Therefore, it would have been a matter of routine determination for one of ordinary skill in the art to choose to enrobe a proportion of effervescent composition in order to release carbon dioxide either before slush freezing or after slush freezing, as claimed. It would be within the purview of one of skill at the time of the invention to modify Vaghela and create frozen confections with varying degree of aeration and effervesce at least for the purpose of creating a variety of flavors and degrees of effervescence in the finished product.

B) Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vaghela (US 6187,365 B1) in view of Falconer (US 3623889), as applied to claims 1-6, 9-14 above, further in view of Dictionary of Food Ingredients, page 24, by Igoe, hereinafter Igoe.

Vaghela in view of Falconer teach a method for producing a frozen confection having an overrun of at least 15%, which method comprises quiescently freezing a mix containing a carbon dioxide generating composition, wherein the mix does not

comprise a gel, as discussed above. The references disclose addition of water soluble carbonate, such as, sodium bicarbonate (Falconer Column 3, line 59-61) for the purpose of carbonation. The references are silent as to the addition of a water insoluble carbonate, to make the confection, as recited in claims 7 and 8. However, calcium carbonate or lime stone is a well known additive for foods and deserts. Further, calcium carbonate is also well known for being practically insoluble in water and alcohol (As taught by Igoe, page 24). Igoe also discloses that calcium source in foods and as a source of calcium ions in dry dessert mixes, i.e., nutrient source. Thus, calcium carbonate is a carbonate added to foods, i.e., functional equivalent of carbonate as taught by the combination of Vaghela and Falconer. Further, calcium carbonate was well known in the art for its benefits of calcium enrichment in foods. It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute one art recognized functional equivalent (i.e. sodium bicarbonate) for another (i.e., calcium carbonate) in the frozen aerated confection as disclosed by modified Vaghela, depending on which carbonate compound was more easily available and affordable at the time the invention was made. One would have been further motivated to include calcium carbonate for the added benefit of incorporating a source of calcium in the frozen confection, made by the method taught by Vaghela. Further the applicants are referred to MPEP § 2144.07, *In re Leshin*, 125 USPQ 416 (CCPA 1960), where the Courts have held that the selection of a known material..., which is based upon its suitability for the intended use, is within the ambit of one of ordinary skill in the art.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JYOTI CHAWLA whose telephone number is (571)272-8212. The examiner can normally be reached on 9:00 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571) 272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JC/
Examiner
Art Unit 1794

/Keith D. Hendricks/
Supervisory Patent Examiner, Art Unit 1794